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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/739,843 | 12/20/2000 | Jerry L. Nadler | 1954-363 | 5838 |

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| ART UNIT | PAPER NUMBER |
|---|---|
| 1644 | |

DATE MAILED: 07/30/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. 139,843 | Applicant(s) NADUR et al |
|---|---|---|
| | Examiner SAUNDERS | Group Art Unit 1644 |

*—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

**Status**

☑ Responsive to communication(s) filed on 5/14/02 & 3/10/03.

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

**Disposition of Claims**

☑ Claim(s) 3-5 & 39 is/are pending in the application.

Of the above claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☑ Claim(s) 3-5 & 39 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☑ Claim(s) 3-5 & 39 are subject to restriction or election requirement.

**Application Papers**

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119 (a)-(d)**

☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 11 9(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 1 7.2(a)).

*Certified copies not received: _____.

**Attachment(s)**

☑ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Reference(s) Cited, PTO-892

☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Other _____

**Office Action Summary**

Applicant's election without traverse of Group II (claims 3-5) in Paper No. 8 (filed 5/14/02) is acknowledged.

New claim 39 falls within Group II.

Applicant's election of specie of the inflammatory/autoimmune condition being atherosclerosis and of the tissue type being smooth muscle cells in Paper 11 (filed 3/31/03) is acknowledged.

Claims 3-5 and 39 are pending and under examination.

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application-by-application number and filing date is required. See MPEP §§ 602/01 and 602.02.

The oath or declaration is defective because:

The declaration filed on 09/739,843 (copy of that executed on 10/29/97) improperly refers to application 08/434,681 as a "prior foreign application". Also the declaration fails to claim benefit of other U.S. applications and PCT applications listed in the first paragraph of page 1.

Claims 3-5 and 39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In the preamble of claim 3 it is unclear what the etiological agents are. Insertion of the "distinct" limitation, in the amendment of 5/14/2002 has rendered it unclear as to whether "12- HETE" is recited as one of the etiological agents or is something that 12-lipooxygenase is "distinct from". It is believed that the former is intended.

The Markush group of claim 4 is unclear. It is not clear if a comma is intended between "condition" and atherosclerosis.

In claim 39 "said tissue specimen" lacks antecedent basis.

Claim 39 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, has possession of the claimed invention. Claim 39 contains new matter by reciting a Markush group member having greater breath than can be supported by the original disclosure.

Specifically the member "endothelial cells" is overly broad; applicant has disclosed, more specifically, "aortic endothelial cells" (e.g. page 4, lines 24-25) and arterial endothelial cells (e.g. page 8, lines 10-21). Given these teachings it is improper for applicant to recite the new subgenus of "endothelial cells", since this would encompass numerous undisclosed types of endothelial cells (e.g. from veins, from lymphatic vessels, or from posterior surface of the cornea).

Claims 3-5 and 39 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claimed method of diagnosis is nonenabled because it is incomplete.

The method is incomplete because there is no final step that relates the presence of the determined etiological agent to the presence of the disease state in the patient.

Claims 3-5 and 39 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the diagnosis of a disease state by the detection of 12/LO or 12-HETE, does not reasonably provide enablement for the diagnosis of a disease state by the detection of antibodies to 12-LO or to 12-HETE. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims. Applicant's disclosure has provided experimental evidence that 12-LO and12-HETE are elevated in certain disease states. Thus one would, with reason, expect detection of 12-LO and/or 12-HETE to be of diagnostic value.

Applicant's disclosure has, however, not shown any experimental evidence that a diseased patient having elevated 12-LO and/or 12-HETE has antibodies thereto. Absent any experimental evidence, the disclosure has provided no rational as to why one would expect a patient to form autoantibodies against either 12-LO or 12-HETE; since this enzyme and product are constitutively present in the organism and are not sequestered from recognition by the immune system, one would have no reason to expect the immune system to respond to these in a disease state in which they are elevated. Applicant's invention is thus an invitation to undue experimentation by leading one on a wild goose chase.

If applicant traverses this rejection he should point to one reference cited on the attached from 1449 that teaches anything about autoantibodies to 12-LO or 12-HETE that are present in any disease state. The examiner has reviewed this literature and found no such teaching. It is therefore considered that the state of the art at time of filing was such that one of skill would have had no reason to even ascertain whether such autoantibodies are associated with a disease and would serves as a marker therefor.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3-5 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jost-Vu et al. (Clinical Res., 40, 106A, 1992, ref AK).

Jost-Vu et al. disclose measurement of elevated levels of 12-HETE in human patients with NIDDM. (same as type II diabetes). Claims 3-5 are thus anticipated.

Under obviousness, if there were a concluding phrase in the claim reciting a correlation of what is detected with a diagnosis, the claimed invention would have been

obvious because any measurable analyte that shows an elevated level can serve as a diagnostic marker for a disease.

It is noted that applicant's recitation of what the human 12-LO is distinct from does not overcome the reference. Whether the specific 12-LO involved in diabetic vascular disease had been or had not been recognized by the authors is not relevant. Any 12-LO, no matter what its cellular source, produces 12-HETE as a metabolic product. Applicant's embodiment of measuring 12-HETE merely analyze for this product, irrespective of what particular 12-LO may have yielded this product. Anticipation obviousness is this properly stated.

With respect to claim 39, Jost-Vu et al. do not teach the tissue source of their samples. The teaching of the LO pathway playing a role in diabetic vascular disease would, however, have led one to consider vascular smooth muscle or vascular endothelial samples. Claim 39 thus would have been obvious.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Saunders whose telephone number is (703) 308-3976. The examiner can normally be reached on Monday to Thursday from 8 AM to 5:30 PM and on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (703) 308-3973. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 for regular communications and (703) 308-4242 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

David a Saunders

DAVID SAUNDERS
PRIMARY EXAMINER
ART UNIT ~~182~~ 1644

Saunders/LR
July 11, 2003